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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,069	04/21/2005	Kenji Yamane	OGW-0363	6096

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EXAMINER	
MAKI, STEVEN D	

ART UNIT	PAPER NUMBER
1733	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,069	YAMANE ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5 and 6* is/are allowed.

6)☒ Claim(s) *1-4 and 7-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *042707*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1) The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2) Claims 1-4 and 7-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is "the groove wall surfaces having at least some inclination at least until reaching the acute-angled corner portions". It is not seen how "the groove wall surfaces having at least some inclination at least until reaching the acute-angled corner portions", which has no explicit support in the original disclosure, is supported figure 1. The original disclosure fails to reasonably convey wall surfaces having "at least some inclination". The description of "at least some inclination" reads on subject matter (e.g. amount of "some", radial extent required by "at least some inclination", angles with respect to axial direction) not contemplated by the original disclosure.

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Claims 1-4 and 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the scope and meaning of "the groove wall surfaces having at least some inclination at least until reaching the acute-angled corner portions" is unclear. One of ordinary skill in the art is not reasonably appraised by the scope of protection afforded by "at least some inclination". It is noted that the original disclosure fails to provide any guidance as to the meaning of "at least some inclination".

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Japan 711

7) **Claims 1-4 and 7-12 are rejected under 35 U.S.C. 102 (a),(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over by Japan 711 (JP 2002-59711).**

Japan 711, directed to restraining uneven wear on a block due to turning, discloses a pneumatic tire having a directional tread pattern comprising a "narrow circumferential groove" 20 having a width of 2 mm or less, four circumferential grooves 10 wherein the outer circumferential grooves 10B have a width Wg of 4-12 mm. In figures 1 and 2, Japan 711 shows a shallow circumferential groove at the center C wherein this shallow circumferential groove has a width greater than that of the "narrow circumferential groove" 20. Japan 711 discloses inner blocks 14 defined by inclined grooves 11 extending from the inner circumferential groove 10A and shoulder blocks 12 defined by inclined grooves 11 extending from the outer circumferential groove 10B. The obtuse corner of the inner blocks 14 is formed with a chamfer 17'. The obtuse angle corner of the shoulder blocks 12 is formed with a chamfer 17. The intersection of the chamfer with the upper surface of the block is a curved line. This curved line is best seen in figure 3.

The claimed tire is anticipated by Japan 711's tire. The inclination angle of the groove wall surface of the block facing the circumferential groove is a maximum at the obtuse angle corner since the distance between the curved upper edge of the chamfer and the side of the block is a maximum at the obtuse angle corner. In any event: It would have been obvious to one of ordinary skill in the art to chamfer Japan 711's blocks (e.g. inner blocks 14) such that "groove wall surfaces located on both sides of the obtuse-angled corner portion of each of the blocks facing to the first circumferential groove are inclined such that the inclination angles thereof are gradually greater towards the obtuse-angled corner portion and are maximum at the obtuse-angled

corner portion" (claim 1) / the inclination angles of parts of the groove wall surfaces in the obtuse-angled corner portion where the inclination angles are maximum are 10 to 40 degrees (claim 2) since Japan 711 teaches chamfering the obtuse angle corner portions of blocks along a curved line as shown in figure 3 so that uneven wear on the block due to turning is restrained. Japan 711's benefit of retraining uneven wear on a block due to turning corresponds to applicant's disclosed benefit of improving irregular wear created during turning.

With respect to "the groove wall surfaces having at least some inclination at least until reaching the acute-angled corner portions", Japan 711's tire inherently satisfies this "limitation". Japan 711's groove wall surfaces are defined by the sidewalls of the inner blocks. The block sidewalls are not parallel to the tread surface and thereby have "at least some inclination". One acute corner has "at least some inclination" defined by chamfer 17' and the other acute angle corner has "at least some inclination" defined by chamfer 22. Also, it can be seen from a comparison of figure 3 and figure 4 that Japan 711's block sidewalls (groove wall surfaces) facing transverse grooves 11A at the acute angle corners are also defined by an angle of substantially 90 degrees to the tread surface.

As to claim 3, the edge between the chamfer and the upper surface of the block is curved.

As to claim 4, note circumferential grooves 10A (first circumferential grooves), circumferential grooves 10B (second circumferential grooves) and inclined grooves 11(first lateral grooves).

As to claims 7 and 8, note figures 2 and 3. In any event: it would have been obvious to one of ordinary skill to locate the starting positions a and b of the chamfer on the acute angled corner portions sides as claimed depending on the desired size of the blocks in view of Japan 711's teaching to extend the chamfer along the entire circumferentially extending edge of the block such that its width at one acute corner is Wi and its width at the other circumferential end is Wo. It is noted that as width Wo increases relative to the block width, the distance of the starting position of the chamfer from the other acute angle corner decreases. As to claim 8, Japan 711's curved upper edge must be defined by at least one radius of curvature K. Claim 8 fails to require the arc line m to extend from position a to position b.

As to claims 9-11, note circumferential grooves 10B and inclined grooves 19.

As to claim 12, note the shallow circumferential groove at the center C.

8) **Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 711 in view of Japan 609 (JP 6-270609).**

Japan 711, which is discussed above, is considered to anticipate claim 12. In any event: It would have been obvious to one of ordinary skill in the art to provide the center rib of Japan 711's directional tread pattern with a center groove having a width greater than either (a) the width (2 mm or less) for the narrow circumferential groove ("second circumferential groove") or (b) the width (4-12 mm) of the circumferential groove 10A (first circumferential groove) since Japan 609, directed to a directional tread having center ribs 6 for stability, suggests using a center circumferential groove 1

having a width such as 8 mm to improve wet performance (paragraph 14 of machine translation).

Japan 711 and either Japan 515 or Europe 989

9) **Claims 1-4 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 711 in view of either Japan 515 (JP 10-016515) or Europe 989 (EP 602989).**

Japan 711 is considered to anticipate claim 1. In any event: With respect to the obtuse angle corner, It would have been obvious to one of ordinary skill in the art to chamfer Japan 711's blocks (e.g. inner blocks 14) such that "groove wall surfaces located on both sides of the obtuse-angled corner portion of each of the blocks facing to the first circumferential groove are inclined such that the inclination angles thereof are gradually greater towards the obtuse-angled corner portion and are maximum at the obtuse-angled corner portion" (claim 1) / the inclination angles of parts of the groove wall surfaces in the obtuse-angled corner portion where the inclination angles are maximum are 10 to 40 degrees (claim 2) since Japan 711 teaches chamfering the obtuse angle corner portions of blocks along a curved line as shown in figure 3 so that uneven wear on the block due to turning is restrained. Japan 711's benefit of retraining uneven wear on a block due to turning corresponds to applicant's disclosed benefit of improving irregular wear created during turning. With respect to "at least some inclination", it would have been obvious to provide Japan 711's blocks such that inner blocks 14 define groove wall surfaces having "at least some inclination" at least until reaching the acute-angled corner portions since (1) Japan 515, also directed to a

directional tread pattern, suggests inclining block sidewalls (groove wall surfaces) 10 and 11 at angle θ1 and angle θ2 respectively satisfy draining property and steering stability or (2) Europe 989, also directed to a directional tread pattern, suggests providing grooves in a tire tread for a car such that the sidewalls of the circumferential groove are inclined at 2-15 degrees with respect to the normal and the sidewalls of the transverse grooves are inclined at a smaller angle than that for the circumferential grooves or substantially normal.

As to claim 3, the edge between the chamfer and the upper surface of the block is curved.

As to claim 4, note circumferential grooves 10A (first circumferential grooves), circumferential grooves 10B (second circumferential grooves) and inclined grooves 11(first lateral grooves).

As to claims 7 and 8, note figures 2 and 3. In any event: it would have been obvious to one of ordinary skill to locate the starting positions a and b of the chamfer on the acute angled corner portions sides as claimed depending on the desired size of the blocks in view of Japan 711's teaching to extend the chamfer along the entire circumferentially extending edge of the block such that its width at one acute corner is Wi and its width at the other circumferential end is Wo. It is noted that as width Wo increases relative to the block width, the distance of the starting position of the chamfer from the other acute angle corner decreases. As to claim 8, Japan 711's curved upper edge must be defined by at least one radius of curvature K. Claim 8 fails to require the arc line m to extend from position a to position b.

As to claims 9-11, note circumferential grooves 10B and inclined grooves 19.

As to claim 12, note the shallow circumferential groove at the center C.

10) **Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 711 in view of either Japan 515 or Europe 989 as applied above and further in view of Japan 609 (JP 6-270609).**

Japan 711, which is discussed above, is considered to teach the subject matter in claim 12. In any event: It would have been obvious to one of ordinary skill in the art to provide the center rib of Japan 711's directional tread pattern with a center groove having a width greater than either (a) the width (2 mm or less) for the narrow circumferential groove ("second circumferential groove") or (b) the width (4-12 mm) of the circumferential groove 10A (first circumferential groove) since Japan 609, directed to a directional tread having center ribs 6 for stability, suggests using a center circumferential groove 1 having a width such as 8 mm to improve wet performance (paragraph 14 of machine translation).

Allowable Subject Matter

11) **Claims 5 and 6 are allowed.**

Although groove portions convex towards the tire centerline are known per se as evidenced by Lippmann et al (US 2,878,852), Japan 104 (JP 62-261104) and Gerresheim et al (US 5,996,661), Japan 613 (JP 8-142613) and Japan 017 (JP 2001-206017, cited in IDS filed 4-27-07), the prior art of record fails to suggest modifying Japan 711's circumferential grooves such that "each of the first circumferential grooves is composed of a plurality of circularly curved groove portions which extend in the tire

circumferential direction, the groove portions being convex towards the tire centerline and connected to one another".

Remarks

12) Applicant's arguments with respect to claims 1-4 and 7-13 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 4-10-07 have been fully considered but they are not persuasive.

Applicant argues Japan 711 has an inclined surface on one side of a corner, but is does not reach the acute angle at the top. This argument is not persuasive because chamfer 17' defines only part of the sidewall. The block sidewall facing transverse groove 11A (the groove wall surface of transverse groove 11A) extends from the obtuse angle corner to the acute angle corner. This sidewall is inclined at substantially 90 degrees to the tread surface at the acute angle at the top and thereby has "at least some inclination".

13) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki
July 7, 2007

Steven D. Maki 7-7-07
STEVEN D. MAKI
PRIMARY EXAMINER